Borough of Macclesfield.

REPORT

ON THE

HEALTH OF MACCLESFIELD

FOR THE YEAR 1900,

BY

J. HEDLEY MARSH,

M.R.C.S., L.R.C.P., (London,)

MEDICAL OFFICER OF HEALTH.

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ANNUAL REPORT

OF

The Medical Officer of Health,

For the Year ending December 31st, 1900.

To the Mayor, Aldermen, and Councillors of the
Borough of Macclesfield.

Mr. Mayor and Gentlemen,

I beg to submit for your consideration my Second Annual Report on the Health and Sanitary condition of the Borough for the year 1900, together with the Statistical Tables required by the Local Government Board.

POPULATION.—In order to obtain information as to the health of the people it is necessary to have a correct enumeration of the population.

In order to gain such information I have taken into consideration the number of new houses built, the number of old houses closed. The attendance at the Public Elementary Schools, and such information as I have been able to obtain respecting immigration and emigration.

After carefully reviewing all these factors I am of opinion that the population of this Borough is stationery at about 36,000.

BIRTHS.

Birth Rate for 1900 .... 23·6.
„ „ 1899 .... 24·6.

853 births were registered during the year, 434 boys and 419 girls. This represents a birth rate of 23·6 per 1,000 of population.

During 1899, 886 births were registered.

The birth rate for England and Wales for 1900 was 28·9 per 1,000 of population.

It will be noticed from the Table which follows that this is the lowest birth rate yet recorded, and that the decline has being on continuously for a long period antecedently.

Years.	Birth-rate.	Years.	Birth-rate.	Years.	Birth-rate.
1874	33·5	1883	28·6	1892	27·4
1875	35·2	1884	31·4	1893	25·0
1876	35·2	1885	29·8	1894	28·2
1877	34·3	1886	28·9	1895	25·4
1878	31·9	1887	28·2	1896	26·8
1879	3·47	B1888	25·8	1897	27·1
1880	31·4	1889	26·2	1898	26·4
1881	31·4	1890	27·0	1899	24·6
A1882	32·1	1891	28·0	1900	23·6

The Registrar General's Returns shew that this decline in the birth-rate is general throughout England and Wales.

The "British Medical Journal" commenting upon this decline in the English birth-rate remarks—" The industrial and manufacturing towns where the birth-rates formerly ranged high and where they still generally do so, have taken by far the major part in producing this change.

The cumulative effect upon those localities where the fall of the birth-rate was considerable has been to deplete them of the young and rising generation as if they had suffered from some terrible infantile mortality. School Boards have been puzzled to find scholars decreasing on the rolls with an increasing population, and boys and girls are at a premium to occupy fresh situations."

"Though the French nation has practically sacrificed its prospects of future supremacy in the rivalry of races through the persistent gratification of a highly civilised individualism the Teutonic races do not afford it a favourable soil nor is it likely to become acclimatised in Great Britain."

DISTRICT BIRTH-RATE.

The following Table shows the birth-rate in the different registration districts for 1900, 1899, and the average for the last ten years.

Districts	Population	1900	1899	Average for 10 years
West Macclesfield	17,000	24·0	23·5	26·1
East Macclesfield and Hurdsfield	13,095	23·2	26·0	29·2
Sutton	5,051	23·6	25·3	29·5

It will be seen that the decline in the birth-rate is, as was the case last year, much more in the East Macclesfield and Sutton Districts.

The question has been asked, why is the general birth-rate of Macclesfield so much below that of the country generally ?

In answer to that question, I am of opinion, that it is due to the character of the staple industries of the town, which provide employment for a considerable number of women but for comparatively few men, and the wages paid to the men are on the whole low, so that there is .no inducement for young men to stay in the town, settle down and marry.

The importation of some industry which would employ the able bodied men at a remunerative wage would be very beneficial to the town.

I append a Table showing the number of births registered during the last ten years in the different districts.

Year	West Macclesfield	East Macclesfield and Hurdsfield	Sutton
1889	432	406	146
1890	462	374	177
1891	374	177	158
1892	437	408	144
1893	427	372	136
1894	471	380	166
1895	433	350	112
1896	441	374	149
1897	472	378	127
1898	422	383	148
1899	417	341	128
1900	429	305	119

ILLEGITIMATE BIRTH-RATE.

The illegitimate birth-rate was 1·8 per 1,000 of population or 7·7 per cent of the births registered as against 9·5 per cent last year.

DISTRICT ILLEGITIMATE BIRTH-RATE.

Percentage of illegitimate births to total number of births registered.

West Macclesfield	10
East Macclesfield	3
Sutton	5

East Macclesfield which has the highest rate of infantile mortality has the lowest illegitimate birth-rate, the general rule being that high infantile mortality and a high illegitimate birth-rate are associated together.

STILL-BIRTHS.

The Cemetery Registrar informs me that the bodies of 16 children described as still-born were brought to the Cemetery for interment during the year.

This represents 1·9 per cent of the total births registered.

The proportion of still-births to total births is generally reckoned as being about 4 per cent.

The law is most unsatisfactory regarding the burial of still-born infants.

The birth of a still-born child is not registered, nor need it be notified to the Registrar.

There is no necessity to bury still-born children in any Cemetery or Churchyard.

A child might be murdered soon after birth and be described as still-born.

DEATHS.

Death-Rate	for	the Whole Borough	for	1900	...19·6 per 1,000
,,	,,	England and Wales	,,	,,	...18·3 ,,
,,	,,	Rural England & Wales	,,	,,	...17·5 ,,
,,	,,	33 Great Towns	,,	,,	...19·5 ,,
,,	,,	67 Smaller Towns	,,	,,	...18·1 ,,
,,	,,	Whole Borough	,,	1899	...20·4 ,,

It will be noticed with satisfaction that this year's rate is materially lowered as compared with last year's. It must however be admitted that it stands still too high, being 1·5 above the rate for the 67 smaller towns with which Macclesfield is comparable.

772 deaths have been registered during the year; this number includes the deaths of 66 people who have been admitted into one or other of our Public Institutions from outside the Borough 57 in the Asylum and 9 in the Workhouse. Subtracting these we have a total of 706, which corresponds to a death-rate of 19·6 per 1000 of population.

The following table shows the death-rate from the year 1874.

Years.	Death-rate.	Years.	Death-rate	Years.	Death-rate.
1874	26·6	1883	23·6	1892	25·1
1875	25·0	1884	22·0	1893	20·6
1876	28·1	1885	20·4	1894	17·7
1877	20·2	1886	20·0	1895	22·5
1878	23·8	1887	23·8	1896	20·0
1879	23·2	B1888	18·3	1897	20·3
1880	21·7	1889	21·0	1898	18·5
1881	23·6	1890	21·9	1899	20·4
A1882	23·0	1891	20·8	1900	10·6

The next table shews the deaths classified according to *age periods*. Together with the causes to which they have been attributed.

CAUSES OF DEATH.

Within the Borough of Macclesfield, classified according to age periods.

Diseases.	Under one year.	1-5	5-15	15-25	25-65	over 65	Total.
Scarlatina		1					1
Diphtheria		4	1				5
Typhoid Fever			1	3	5		9
Influenza			1	4	5	7	17
Puerperal Fever				1			1
Measles	3	7	1				11
Whooping Cough	3	2					5
Diarrhœa and Dysentry	26	4			1	5	36
Rheumatic Fever			1	2	2		5
Bright's Disease				2	24	7	33
Pulmonary tuberculosis		1	2	10	42	2	57
Bronchitis	19	6		3	23	19	70
Pneumonia	11	5		5	14	5	40
Heart Disease		2	1	4	45	32	84
Injuries	1	3			11	5	20
Cancer	1			1	22	10	34
Convulsions	21	4		2	2		29
Apoplexy					14	21	35
Insanity					12	2	14
Other Brain Diseases	2	3		2	6	3	16
Premature Birth	24						24
Marasmus	7	3					10
Atrophy (Senile)					1	85	86
Tabes Mesenterica	19	5				1	25
Tubercular Meningitis	4	2	1	1			8
Tuberculosis	4	4	2	2	3	1	15
All other diseases	18	3	4		39	17	81
Totals	163	59	15	42	270	223	772

UNCERTIFIED DEATHS.

West Macclesfield	... ...	2
East Macclesfield and Hurdsfield	...	7
Sutton	...	2
Total	...	11 or 12 $^{0}/_{0}$ of total deaths

Causes to which such deaths are assigned in the Register—:

West Macclesfield ...	1 Heart disease. 1 Senile decay.
East Macclesfield ...	1 Cause unknown. 1 Heart disease. 1 Heart disease. 1 Heart disease. 1 Heart disease. 1 Heart disease. 1 Bronchitis.
Sutton	1 Senile decay. 1 Heart disease.

MORTALITY AT DIFFERENT AGES.

The *first* column on the previous table shows that 163 infants have died during the year under one year of age as against 174 in the previous year. This is a slight improvement, probably due to meteorological conditions.

The deaths in this column from Diarrhœa, Bronchitis, Tuberculosis of the bowels (tabes mesenterica) and convulsions are still excessive.

I shall discuss this further when considering *Infantile Mortality* on page 17

The *second* column (ages 1 to 5 years) shown an increase of two on last years returns. Diphtheria again begins to claim its victims. Last year we had no deaths from Diphtheria.

The mortality from Measles is also more than double that of previous year.

The *third* column shows a decrease of two.

The *fourth* column shows an increase of 18. Enteric Fever, Influenza and Phthisis being largely responsible for this increase.

The fifth and sixth columns shows a decided decrease.

It is very probable that at the more advanced ages many chest diseases are really tubercular in their nature and that with advancing age the number of persons who die from active tuberculosis is greater than appears.

DISTRICT MORTALITY.

The number of deaths in the different registration districts, and in Public Institutions is shown in the following table :—

	Population (Including Public Institutions).	No. of Deaths.	Death-rate per 1000 of population.
West Macclesfield	17,854	284	22·2
East Macclesfield and Hurdsfield	13,095	224	17·1
Sutton	5,051	84	16·6
Public Institutions { Asylum Workhouse Infirmary }	1,200 Approximately	180	15·0

In comparing the death-rate for West Macclesfield, the 180 deaths in the Public Institutions must be added to the total number of deaths in that district and from this latter total must be subtracted the number of persons who have died in these Institutions who did not belong to the Borough, viz—66

DEATHS IN PUBLIC INSTITUTIONS.

The following Table shows the number of deaths of persons in our Public Institutions.

	Quarter ending March	June	Sept.	Dec.	Total
Asylum	28	17	8	17	70
Workhouse	34	9	21	16	80
Infirmary	12	7	7	4	30
	74	33	36	37	180

The following Table shows some of the diseases to which deaths in these Institutions have been ascribed.

	Asylum.	Workhouse.	Infirmary.	Totals
Pulmonary tuberculosis	9	12	0	21
Bright's diseases	14	3	2	19
Pneumonia	11	4	2	17
Influenza	1	1	2	4
Enteric Fever...	0	2	0	2

22 per cent of the deaths in our Public Institutions are due to Phthisis and Bright's disease, both diseases associated with degenerated tissues.

Bright's disease closely related to arterial degeneration accounts for 14 deaths at the Asylum, mainly occuring during the periods of middle life when the products of excess of free living and labourous and anxious occupations or of the two combined begin to produce effect.

Phthisis casually related to inherited weakness, unhealthy enveroument and poverty accounts, for 12 deaths in the Workhouse.

DISTRICT MORTALITY (Table II).

The following Table shows some of the principal diseases to which death has been ascribed in the different Registration Districts.

	West Macclesfield (Excluding Public Inst.)	East Macclesfield	Sutton
Pulmonary Tuberculosis	13	19	5
Bright's Disease	10	5	0
Cancer } Sarcoma Carcinoma	14	10	5
Diarrhœa	18	12	6
Convulsions	7	18	4
Heart Disease	34	23	7
Pneumonia	11	7	5
Brain Diseases	23	14	6

In West Macclesfield, Pulmonary Tuberculosis is responsible for 13 deaths, 5 of which were of persons under 25 years of age and the remaining 8 under 55. In East Macclesfield the same disease caused 19 deaths, 11 of which were of persons under 25 years of age and 7 under 55. In Sutton four out of the five were under 25 years. Thus the brunt of the mortality falls on adults at those ages when life is most valuable both in a social and economical sense.

The Mortality from Cancer is, I believe, increasing in all three divisions of the Borough, 8 out of the 14 deaths in West Macclesfield from this disease were in persons whose ages were between 25 and 65.

In East Macclesfield 8 out of 10 Cancer deaths were between ages 25 to 65.

The deaths from Diarrhœa and Convulsions must be considered together since both are due in young children, amongst whom the mortality from these two causes is excessive, to improper feeding and want of clean and healthy surroundings.

In West Macclesfield 13 out of 18 Diarrhœa deaths occurred under one year and 9 out of 12 East Macclesfield.

In West Macclesfield out of 7 deaths from Convulsions 5 were in infants under one year of age and in East Macclesfield out of a total of 18 deaths no less than 16 were under one year.

The term Heart Disease is vague and probably includes a number of deaths the primary cause of which would be found elsewhere than in the heart or the great vessels of the chest. It is difficult to dissociate Pneumonia and Influenza from Heart Disease.

In the first half of the year particularly, the first quarter, Influenza of a severe type was Epidemic. During January, February, March, 9 deaths were attributed to Influenza and 28 to Heart Disease.

Pneumonia, also, is closely related to both Influenza and Heart Disease during the first quarter of the year 18 deaths were ascribed to it out of a grand total of 40 for the whole year.

Brain diseases also includes a number of disorders of the brain. In West Macclesfield out of the 23 shown on the Table 14 were ascribed to cerebral hæmmorrhage or apoplexy and 10 of these were between the ages of 25 to 65 years.

In East Macclesfield out of the 14, 8 were ascribed to apoplexy and 3 out of the 6 in Sutton.

The next four Tables show the causes of death allocated to the four quarters of the year, such deaths also being classified according to age periods.

CAUSES OF DEATH
Within the Borough, quarter ending
March 31st, 1900.

Diseases	Under one year.	1-5	5-15	15-25	25-65	over 65	Total.
Scarlatina	...	1	...	...	...	...	1
Diphtheria	...	1	1	...	...	...	2
Typhoid Fever	...	...	1	...	1	...	2
Influenza	...	...	1	3	1	4	9
Measles	1	5	1	...	...	...	7
Whooping Cough	1	...	...	...	...	...	1
Diarrhœa and Dysentry	3	...	...	...	1	2	6
Rheumatic Fever	...	...	...	1	1	..	2
Bright's Disease	...	...	...	...	10	2	12
Pulmonary tuberculosis	...	...	...	3	10	...	13
Bronchitis	3	1	...	...	13	10	27
Pneumonia	5	3	...	1	5	4	18
Heart Disease	...	...	...	...	17	11	28
Injuries	...	...	...	...	7	...	7
Cancer	...	...	...	...	4	2	6
Convulsions	8	...	...	...	...	...	8
Apoplexy	...	...	...	...	5	5	10
Insanity	...	...	...	...	2	2	4
Other Brain Diseases	1	2	1	...	2	2	8
Premature Birth	4	...	...	...	...	...	4
Marasmus	3	2	...	...	...	...	5
Atrophy (Senile)	...	...	...	...	...	35	35
Tabes Mesenterica	6	...	...	...	...	...	6
Tubercular Meningitis	...	2	...	1	...	...	3
Tuberculosis	...	1	...	...	...	...	1
All other diseases	3	...	1	...	15	4	23
Totals	38	18	6	9	94	84	249

CAUSES OF DEATH

Within the Borough, April, May and June, 1900.

Diseases	Under one year.	1-5	5-15	15-25	25-65	over 65	Total.
Typhoid Fever	...	...	1	1	...	...	2
Influenza	...	...	...	...	3	3	6
Measles	2	2	...	...	...	...	4
Whooping Cough	...	1	...	...	...	...	1
Diarrhœa and Dysentry	2	1	...	...	...	...	3
Rheumatic Fever	...	...	1	...	...	...	1
Bright's Disease	...	...	...	...	9	...	9
Pulmonary tuberculosis	...	...	1	3	9	...	13
Bronchitis	6	2	...	2	2	4	16
Pneumonia	4	1	...	1	6	...	12
Heart Disease	...	1	1	1	11	7	21
Injuries	1	...	...	...	3	1	5
Cancer	1	...	...	1	2	1	5
Convulsions	7	1	...	...	...	...	8
Apoplexy	...	...	...	...	4	2	6
Insanity	...	...	...	...	3	...	3
Other Brain Diseases	...	...	...	1	2	...	3
Premature Birth	6	...	...	...	...	...	6
Atrophy (Senile)	...	...	...	...	...	18	18
Tabes Mesenterica	6	2	...	...	...	...	8
Tubercular Meningitis	2	...	...	...	...	...	2
Tuberculosis	3	2	...	...	1	...	6
All other diseases	1	1	1	...	8	2	13
Totals	41	14	5	10	66	38	169

CAUSES OF DEATH WITHIN THE BOROUGH,

July, August, September, 1900.

Diseases.	Under one year	1-5	5-15	15-25	25-65	over 65	Total
Diphtheria	...	1	...	...	...	...	1
Typhoid Fever	...	...	...	1	...	...	1
Influenza	...	...	...	1	...	...	1
Puerperal Fever	...	...	...	1	...	...	1
Whooping Cough	2	...	...	...	...	...	2
Diarrhœa and Dysentry..	17	3	...	...	...	1	21
Rheumatic Fever	...	...	...	...	...	...	...
Bright's Disease	...	...	...	2	...	1	3
Pulmonary tuberculosis..	...	...	...	3	14	2	20
Bronchitis	4	1	...	...	2	5	12
Pneumonia	1	...	...	...	2	...	3
Heart Disease	...	1	...	1	5	6	13
Injuries	...	1	...	...	3	1	5
Cancer	...	...	...	...	10	2	12
Convulsions	4	2	...	1	...	...	7
Apoplexy	...	...	...	...	3	6	10
Insanity	...	...	...	...	2	...	2
Other Brain Diseases ...	...	...	...	1	2	1	4
Premature Birth	8	...	...	...	...	...	8
Marasmus	2	1	...	...	...	...	3
Atrophy (Senile)	...	...	...	...	1	9	10
Tabes Mesenterica	5	2	...	...	...	...	7
Tubercular Meningitis...	...	...	...	...	...	...	...
Tuberculosis	1	1	1	...	1	...	4
All other diseases........	5	2	2	...	5	3	17
Totals..............	49	15	3	11	52	38	169

CAUSES OF DEATH WITHIN THE BOROUGH.

Quarter ending December 31st, 1901.

Diseases.	Under one year	1-5	5-15	15-25	25-65	over 65	Total
Scarlatina	...	...	...	...	...	...	...
Diphtheria.................	...	2	...	...	...	...	2
Typhoid Fever	...	...	...	1	4	...	5
Influenza	...	...	...	...	1	...	1
Whooping Cough	...	1	...	..	...	...	1
Diarrhœa and Dysentry..	4	...	...	...	...	2	6
Rheumatic Fever	...	...	...	1	1	...	2
Bright's Disease	...	...	...	...	5	4	9
Pulmonary tuberculosis..	...	1	1	1	9	...	12
Bronchitis	6	2	...	1	4	4	17
Pneumonia	1	1	...	3	1	1	7
Pleurisy	...	...	...	...	...	..	...
Heart Disease..............	...	...	...	2	12	8	22
Injuries	...	2	...	...	1	...	3
Cancer	...	...	...	...	6	4	10
Convulsions	2	1	...	1	2	...	6
Apoplexy	...	...	...	...	2	7	9
Insanity	...	...	...	...	5	...	5
Other Brain Diseases ...	1	...	...	...	...	...	1
Premature Birth	6	...	...	...	...	...	6
Marasmus	2	...	...	...	...	...	2
Atrophy (Senile)	...	...	...	...	...	23	23
Tabes Mesenterica	2	1	...	...	...	1	4
Tubercular Meningitis ...	2	...	1	...	...	...	3
Tuberculosis	...	...	1	2	...	1	4
All other diseases	9	...	...	...	8	9	26
Totals	35	11	3	12	62	63	186

INFANTILE MORTALITY.—By infantile mortality, we mean the number of children who die, under one year of age, to every thousand born. If we were able to correctly obtain the infantile population this number would form the basis of our calculations, just as the census returns from the basis of all other death statistics. But, unfortunately, the census enumerations do not give us trustworthy information, in this case. The ages of infants being very commonly incorrectly returned. Thus it is considered preferable by statisticans, to estimate their mortality in proportion to every thousand births.

The Infantile mortality then is *the annual number of deaths of infants under one year of age to every thousand births during the same year.*

We must next bear in mind, that a certain proportion of infants will die from unavoidable causes, some are born too feeble, or prematurely, or only just alive. Now, in order to fix a standard for comparison, we must try to find what this number of unavoidable deaths is to every thousand born.

Dr. Hope, the Medical Officer of Health for the city of Liverpool, discussed this very problem at the Congress of Public Health, held this year in Aberdeen, he said, assuming that the sanitary surroundings were good and proper care was exercised by the mother, partly from personal observation, partly from the recorded experience of medical men in general and hospital practice a standard of unavoidable mortality might be reached for infants not exceeding 75 per 1000 births per annum. But as that might be considered too low he put down the figure at 100 per 1000 per annum. Everything above that figure might be considered abnormal and preventible. Having thus got a firm grasp of the fact that the normal or unavoidable loss of child life should not exceed 100 per 1000 births let us see how we stand in this matter in Macclesfield.

For the whole Borough, for this year, the rate is 190 per 1000 registered births or 90 above the standard.

DISTRICT INFANTILE MORTALITY TABLE.

Showing rate of mortality among infants under one year of age to 1,000 registered births apportioned to the different districts compared with the corresponding figures for the last twelve year.

Districts.	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	Averge for 10 yrs	1898	1899	1900
West Macclesfield......	118	180	143	136	192	170	110	210	138	152	155	189	223	167
East Macclesfield... ...	171	265	219	161	215	225	137	210	180	187	195	159	167	242
Hurdsfield	87	169	160	127	177	153	156	170						
Sutton....................	148	212	124	108	235	131	126	212	148	212	167	135	187	142
The whole Borough...	135	220	172	130	203	190	134	247	155	175	172	174	196	190
33 Great Towns.........	...	...	...	...	...	...	...	...	...	...	...	...	...	173
England	136	144	151	149	148	159	137	161	148	156	149	161	163	154

It will thus be seen, from the last column of the above table, that the rate of infantile mortality is excessive in all three divisions of the Borough and extraordinarily so in East Macclesfield. Hurdsfield, which always had and has now a low infantile mortality rate, exercises a very favourable effect on the statistics of East Macclesfield. If we could separate the figures for East Macclesfield from those of Hurdsfield, the rate of infantile mortality for East Macclesfield would be increased by nearly one-third, and would bring the rate up to about 300 per 1000 registered births per annum.

This state of affairs cannot be contemplated with satisfaction. It is the duty of the Sanitary Authority to enquire into and search out the causes for this abnormally large loss of child-life and then to take steps to prevent it.

If, as the first step towards the solution of the problem of the causes of this high infantile mortality, we ask, during what portion of the year is the mortality highest, we find that it is during the second and third quarters, 90 deaths occurring during the quarters ending June and September and 73 during the quarters ending March and December. It is during the warm weather that the greatest mortality occurs.

If next we ask, what are the principal diseases to which the deaths of these infants have been ascribed ? The answer is mainly diseases of the digestive organs and their results.

We find that Diarrhœa is responsible for 26 deaths. Convulsions for 21 and in this connection it must be borne in mind that convulsions in children are, in nine cases out of ten, produced by the irritation of the stomach and bowels of the child with improper and indigestible food.

To Tabes mesenterica are attributed 19 deaths, possibly the greater part of these deaths have been due to zymotic diarrhœa. Marasmus or wasting, is credited with causing 9 deaths. To summarise

Diarrhœa	26	deaths under	1 year.
Convulsions	21	,,	,,
Tabes mesenterica or "Consumption of the bowels"	19	,,	,,
Marasmus or wasting...	17	,,	,,
Total...	73	,,	,,

Thus 45 o/o of deaths are due to diseases of the stomach or bowels or associated conditions.

Next amongst the causes of infantile mortality rank diseases of the lungs.

Bronchitis ...	19 deaths under 1 year.		
Pneumonia ...	11	,,	,,
Total...	30	,,	,,

There can be little doubt but that many of the infants who recover from the diarrhœa, &c., are left so weak and feeble that, with the onset of the colder weather, they readily succumb to bronchitis and broncho-pneumonia.

Having thus seen that it is mainly to diseases of the organs of digestion and their results that these deaths are due we must next ask, How are these diseases produced ?

In endeavouring to answer this important question we must keep before us the fact that the only proper food for a child under six months of age is healthy mother's milk, and for this there has not yet been discovered, its equivalent as a food for infants.

From personal enquiry in East Macclesfield I can state that over 75o/o of the children who have died under one year have been bottle fed children. How is this brought about ?

Many of the working people, when deciding to marry, reckon upon the joint earnings of husband and wife to maintain the household. Upon the birth of a child the wife's contribution, possibly the larger of the two, ceases and just at a time when many little extras are required the pinch is felt, and the mother feels compelled to wean her baby and put it out to nurse so that she may return to her work and wage earning.

The close connection between infantile mortality and infant feeding is shown by the fact that during the suffering and starvation of the seige of Paris in 1870—71 while the general mortality was doubled, that of infants was said to have been reduced by 40 per cent owing to mothers being obliged to suckle their infants. The same increase of adult and diminution of infant mortality was seen during the Lancashire cotton famine, when mothers were not at work at the mills.

It will thus be evident that if an infant is, through force of circumstances, compelled to be deprived of its birth-right of mothers milk and to be fed artificially, then it is of the utmost importance, that the bottle should be carefully chosen so as to ensure its capacity for being kept scrupulously clean and that the cows milk should be properly sterilised, diluted and sweetened ; but, unfortunately, a very slight acquaintance with the methods of rearing bottle fed infants in the poorer quarters of the town will show that all such details as those specified above are more honoured in the breach than the observance.

The bottle selected is usually one with a long rubber tube attached, this choice is made because it is easier to put the bottle in the child's crib and leave it to feed itself, than to take it up and feed it systematically from a boat-shaped bottle. This long tube is not capable of being properly cleansed and so particles of sour milk coat its interior, and thus one finds frequently that the use of uncleanly bottles containing milk in an early state of putrefaction is a common source of infantile diarrhœa.

Again, many ignorant mothers and nurses, give farinaceous food such as barley, sago, corn flour, mixed with milk to young infants, entirely ignoring the fact, of which they are profoundly ignorant, that a young infant is perfectly incapable of digesting such like foods and that all it requires is milk properly prepared. This feeding with farinaceous foods produces diarrhœa, convulsions, &c.

Next to proper feeding nothing conduces so much to the health and happiness of infant-life as scrupulous cleanliness of the child's person and clothing, abundance of fresh air and sunlight. A young child naturally places everything in its mouth and consequently if its clothing is dirty it will contrive to suck a considerable quantity of this dirt into its mouth and stomach and thus give rise to digestive troubles, even in children who are fed at the breast. If the house is close and dirty, if as is only too frequently the case there is no proper through ventilation, if there is a foul, stinking, privy-midden within a few feet of the back door, then, can it be wondered that children, like plants, wither and die.

It is true saying, that the rate of infantile mortality is a most reliable test of the Sanitary condition of a district.

I am of opinion that the main solution of this problem of infantile mortality lies in the careful regulation of infant feeding. It may be asked, how does the poisonous material which gives rise to fatal diarrhœa, &c., get into the milk ?

Great efforts have been made to discover the specific germ which causes this change in milk It evidently flourishes most abundantly during the warm weather of June, July and August, when zymotic diarrhœa becomes epidemic and enquiry into the houses and districts where diarrhœa most abounds shows, that polluted soil in and around these dwellings from leaky middens, deposits of horse manure and other decomposing organic filth, load the air with germs capable of setting up diarrhœa, after they are taken into the milk, which is generally freely exposed without any protection from their entry; again, milk may become contaminated before delivery or at the farm.

Infantile mortality is always highest when the third quarter of the year is dry and warm for then the germ or germs flourish abundantly. Heavy rainfall and colder weather lower the mortality rate at once. A marked reduction can be brought about by careful scavenging and frequent removal of all filth, the conversion of the stinking privy-middens into water-closets, the frequent flushing of courts, yards and passages with clean water in warm weather.

What steps, then, should the Sanitary Authority take, at a reasonable expense, to cope with this high mortality rate ?

The Health Committee have published and circulated some three or four years ago a small pamphlet on Infant feeding; but pamphlets are of little use to the class of women who most need instruction in this matter. The example of St. Helens might be followed with advantage, where stations are established in the worst quarters of the town for the sale at cost price of a days supply of pure, sterilised properly diluted and sweetened milk. The cost in St. Helens for a day's supply in about 2d.

It would be also be a step in the right direction to appoint a properly qualified female Sanitary Inspector to act as a Health Visitor to visit all homes where a baby has been born and to personally supervise its feeding, clothing, &c., until the mother had learned how to properly tend her child.

The establishment of a creche is advisable, where working mothers can leave their children during the day under proper care. Such creche should be self supporting and either managed by a committee of the working people themselves or be directly under the control of the municipality.

There should be no element of charity or patronage about such an Institution, otherwise it is foredoomed to failure.

The School Authorities might be invited to require the teachers of the older children in elementary schools, to give them a weeks instruction in the best form of feeding bottles, the methods of keeping them clean, the sterilisation of milk at home, the precautions necessary in keeping milk and the care required to keep infants from taking dirty matters into their mouths.

It has been suggested that legislative measures should be passed preventing mothers returning to work after the birth of a child for at least six months.

DEATHS FROM TUBERCULOUS DISEASES.

Next to the Infantile mortality rate the death rate from the tuberculous diseases afford a valuable index of the general sanitary condition of a district.

The germ of tuberculosis requires to be planted in a suitable soil for it to flourish and produce its harvest of disease, suffering and death.

Nothing is so detrimental to the growth and spread of tuberculosis as abundance of fresh air and sunshine, clean good food, clean houses with plenty of fresh air.

Nothing is so helpful to the growth and spread of tuberculosis as foul air, dark, dirty illventilated rooms and squalid poverty.

		1900.	1899.
No. of deaths from Phthisis		57 ...	76
Other Tuberculous Diseases 71	Tabes mesenterica ...	48 ...	24
	Tuberculous meningitis	8 ...	
	General tuberculosis...	15 ...	
	Total.........	105	100

Death-rate per 1000 of population from Phthisis... 1·5
Last year ,, ,, ,, ,, ... 2·1
Death-rate per 1000 of population from *all* tuberculous diseases... 2·9
Last year ,, ,, ,, ,, ... 2·7

The improvement in the death-rate from Phthisis is most satisfactory, but it is counterbalanced by the greater number of deaths from other tuberculous diseases, though I do not believe that the total tuberculous mortality is quite so high as these statistics would imply. I stated, when discussing Infantile Mortality, that I am of opinion that a considerable proportion of cases of Zymotic or Epidemic Enteritis are loosely certified as tabes merenterica. Attention has been called to the necessity for a more restricted nomenclature for Epidemic or Zymotic Enteritis, and it is hoped that this possible source of error will be removed.

However, if we were to reduce the number standing for tabes mesenterica by one half, *viz*:—to 24, the mortality for tuberculous diseases, other than Phthisis, would still be double that of last year's rate and much too high.

If we next enquire, in which quarter of the Borough are there the greatest number of deaths from tuberculous disease and where has the improvement in the number of deaths from Phthisis on last year's statistics taken place? This is shewn in the following table.

	West Macclesfield. (Excluding Institution.)		East Macclesfield.		Sutton.	
	1900	1899	1900	1899	1900	1899
Phthisis … … …	13	21	19	19	5	9
Tabes mesenterica … …	11		13		0	
Tuberculous meningitis… …	4		3		1	
General tuberculosis … …	7		4		1	
Totals … …	35		39		7	
Death rate per 1000 of population (excluding Public Institutions … … …	2·0	Death-rate per 1,000 of population.	2·9	Death-rate per 1,000 of population.	1·3	
Phthisis Death-rate … …	0·7	Phthisis death-rate.	1·4	Phthisis death-rate.	0·9	

We thus see that in tackling this problem, our attention is principally directed towards East Macclesfield; which, with a much smaller population than West Macclesfield, shows higher mortality figures. Not only so, but, it is the only quarter of the Borough which has not shared in the improvement in the Phthisis death-rate. For it will be noticed that the number of deaths from Phthisis in West Macclesfield is reduced from 21 to, 13 and in Sutton 9 to 4. Whereas East Macclesfield remains stationary with an excessive Phthisis mortality of 19 or 1·4 per 1,000 population.

If we separate the East Macclesfield figures from Hurdsfield, we find that three-fourths at least of the deaths from Phthisis have occurred in East Macclesfield. The germ of tuberculosis is rampant in East Macclesfield, for whilst we have been considering the number of *deaths* from its effects, we have not taken into account those who recover after a long and tedious illness, permanently disabled from following any active occupation and being little more than physical wrecks, a burden to themselves, their relations and the community. Before considering in what direction the Sanitary Authority should advance, in order to curb this preventible malady, let us consider during which quarters of the year the mortality is highest, the figures being apportioned to different districts in which the deaths have occurred.

	Quarter endiing...	Mar.	June.	Sept.	Dec.
West Macclesfield [excluding Public Institutions]	Phthisis	2	1	6	4
	Tabes mesenterica	4	2	3	2
	Tuberculous meningitis ...	2	1	0	1
	General tuberculosis...	0	4	1	2
East Macclesfield	Phthisis	3	7	4	5
	Tabes mesenterica	2	6	4	1
	Tuberculous meningitis ...	1	0	0	2
	General tuberculosis...	1	1	1	1
Sutton......	Phthisis	2	2	1	0
	Tabes mesenterica	0	0	0	0
	Tuberculous meningitis ...	0	1	0	0
	General tuberculosis...	0	0	0	1
		17	25	20	19

This Table shows that in East Macclesfield, the deaths from tabes mesenterica are most numerous during the two middle quarters of the year, that is, when epidemic enterits is prevalent and this fact, lends colour to the assumption, that a proportion, varying from a quarter to one third,of the deaths classified as tabes mesenterica would be more correctly classified under the head of diarrhœa meaning thereby epidemic or zymotic diarrhœa.

Still, we must take it for granted, that from 18 to 20 infants have died in the Borough under one year of age, from tuberculosis of the bowels, the germ of tuberculosis being almost certainly introduced into the childs system through the milk which has been infected either from the tuberculous udder of the cow or has gained entrance into the milk after milking, and it is to the first source that, I believe, we must look for the origin of the infection.

As we have already seen tuberculosis claims the large majority of its victims in active middle life when the value of life is at its greatest both socially and economically. Suppose we look at the value of these lives to the community from a monetary point of view.

Dr. Farr calculated that the average value at all ages for a life was £159 so that we should be quite safe in saying that the money value of a person saved from a fatal attack of phthisis in Macclesfield would be at least £100.

This year 57 people have died from phthisis, and if we could reduce this number by one half we should save a sum of £2,800 annually. Add £500 for a possible saving from other forms of tuberculosis and we should then achieve a saving of over £3,000 a year.

How can we set about this task.

1.—By educating the public on the precautions to take in dealing with this disease.

2.—By instructing those who are already suffering therefrom on the extreme importance of destroying at once all the spulum or phlegm which they cough up.

3.—By cleaning and disinfecting infected houses and closing such houses as from their damp, ill ventilated, dark and squalid character provide suitable breeding grounds for the bacillus of tubercle.

4.—By careful supervision of Dairies and Milk-shops and the frequent bactercological examination of samples of milk.

5.—By including pulmonary tuberculosis amongst the dangerous infectious diseases which must be notified and so brought under direct sanitary supervision and control.

6.—By defraying the cost for all medical practitioners in the Borough of bacteriological examination of suspected sputum, so as to enable an early diagnosis of phthisis to be made and the patient instructed in the way to properly dispose of the phlegm he coughs up.

The efforts so far put forth have been very meagre and paltry in view of the greatness of the evil to attacked.

8 houses have been disinfected during the year and a bill has been printed on cardboard and circulated in the common lodging-houses of which the following is a copy.

BOROUGH OF MACCLESFIELD.

Do not spit on the walls or floor.

This disguisting habit causes others to take consumption.

MEDICAL OFFICER OF HEALTH.

We have a large stock of these placards printed and I trust that Landlords of Publichouses, Manufacturers, &c., will see their way to having them hung in a prominent place in the bar parlour, the mill, workshop, &c. It will be an attempt to educate the public generally on the dangers of promiscuous spitting.

DEATHS FROM THE ZYMOTIC DISEASES.

Number of deaths in 1900 in the Borough 65.

Death-rate per 1,000 of population	...	1·8
,, ,, ,, ,, England and Wales	...	2·0
,, ,, ,, ,, Rural England	...	1·5
,, ,, ,, ,, Borough in 1899	...	2·6

65 deaths are attributed to the zymotic or preventable diseases as against 94 last year.

The following Table shows the 7 principal zymotic diseases and the number of deaths attributed to them during the year compared with 1899.

Diarrhœa	34	in	1899	63
Measles	11	,,	,,	3
Scarlet Fever	1	,,	,,	9
Diphtheria	5	,,	,,	0
Whooping Cough	5	,,	,,	15
Typhoid or Enteric Fever	9	,,	,,	4

The following Table shows the zymotic death-rate from 1874.

Years.	Death-rate from the Seven Zymotic Diseases	Years.	Death-rate from the Seven Zymotic Diseases
1874	2·5	B1888	1·4
1875	2·4	1889	3·0
1876	6·0	1890	1.4
1877	2·1	1891	1·1
1878	2·3	1892	1·1
1879	1·7	1893	1·6
1880	1·1	1894	1·9
1881	3·4	1895	3·1
A1882	3·0	1896	3·2
1883	2·3	1897	3·2
1884	2·2	1898	1·8
1885	0·8	1899	2·6
1886	1·9	1900	1·8
1887	3·2		

A—Compulsory Notification came into force.
B—Isolation Hospital Opened.

Table showing the number of deaths from the Zymotic Diseases in the different districts.

Zymotic Diseases.	West Macclesfield.	East Macclesfield.	Sutton.	Isolation Hospital.
Measles	7	3	1	
Small Pox				
Scarlet Fever	1			
Diphtheria	2	2		1
Whooping Cough	2	3		
Fevers	3	4		2
Diarrhœa	18	12	4	
Totals	34	23	5	3
Death-rate per 1,000 of population	·2	1·7	·9	

This satisfactory decrease in the zymotic death-rate is due to a decrease in the number of deaths from Diarrhœa, Scarlet Fever and Whooping Cough.

The most unsatisfactory feature is the five deaths from Diphtheria which, after a years' interval, is again becoming responsible for an increase in the zymotic mortality rate. Diarrhœa shows a decrease of 29 deaths as compared with 1899.

Scarlet Fever a decrease of 8 and Whooping Cough a decrease of 10 as compared with 1899. On the contrary Measles shows an increase of 8, Typhoid Fever an increase of 5 and Diphtheria of 5.

DIARRHŒA.

Number of Deaths 34. Death-rate per 1,000 of population ·9. Death-rate per 1,000 of population last year 1·7.

Death from diarrhœa classified according to the districts in which such deaths have occurred apportioned to the several quarters of the year.

Quarter ending...	March.	June.	Sept.	Dec.	Total.
West Macclesfield (excluding Public Institutions)	4	1	9	4	18
East Macclesfield and Hurdsfield	1	0	9	2	12
Sutton	0	1	3	0	4
Totals	5	2	21	6	34

The mortality is greatest during the third quarter of the year, the number of deaths begins to increase about the middle of July and reaches its highest point during the last week in August whence it steadily falls.

The mortality is heaviest on the two extremes of life. Young children and old people readily succumb to an acute attack of summer diarrhoea.

Of the 21 deaths occurring during the third quarter of the year 17 were in children under one year of age, 2 in children under five years of age, and one in a person over 65 years of age.

To what causes must be attributed this satisfactory decline in the number of deaths from diarrhœa? Principally I believe to two. The first, meteorological. Last summer was comparatively cold and wet, August was markedly wet and we know that a cold and damp summer tends to prevent the rapid growth of the germ or germs responsible for diarrhœa.

Again I believe that East Macclesfield during July and August was extremely well scavenged and the privy-middens were frequently emptied. In addition we are slowly substituting the water-closet for the privy-midden and the effect on the health of the town will gradually become apparent.

I would suggest that next summer many of the passages, courts and entrys should be flushed, once or twice a week, with clean water containing a disinfectant.

This would, I am convinced, result in a marked lowering of the diarrhoea death-rate be the summer hot and dry or cold and damp

I would again repeat that the contamination of food, milk particularly, by exposure to the air in places where this germ or germs is likely to be found, is a most fertile source of diarrhoea.

It is most important that *all milk should be boiled or sterilised* before use and this applies particularly to the case of young children and old people.

MEASLES.

Number of deaths	....	11
Death-rate per 1,000 of population	....	0·30
,, ,, ,,	Last year	0·08
,, ,, ,,	England & Wales 1899	0·31

The 11 deaths attributed to measles occurred during the first and second quarters of the year and ten of these deaths were in children under 5 years of age. Two dying in the workhouse.

Deaths from measles allotted to the district in which they have occurred.

Quarter	First.			Second.			Death-rate per 1,000 of population.
	Under 1 year.	1-5	5-15	Under 1 year.	1-5	5-15	
West Macclesfield	...	3	1	1	2	...	0·39
East Macclesfield	...	2	...	1	...	...	0·22
Sutton	1	...	...	...	...	...	0·1
Totals......	1	5	1	2	2	...	0·30

The disease was most prevalent and severe in West Macclesfield. It first showed itself in this District. Most of the deaths have resulted from the common complication of measles, when it is treated lightly *viz.*, Capillary bronchitis or broncho-pneumonia.

It is very noteworthy, that if a child can be shielded from the infection of measles during the first five years of its life, its risk of subsequently acquiring the disease, with all grave possibilities in the way of pulmonary complications, is enormously reduced, and it is well worth every effort being made to attain it.

One of the most important factors in aiding the spread of measles is the attendance of children at the public elementary schools during the early stages of the disease when at just that time it is most infectious.

Your Medical Officer of Health, guided largely by the experience of the Medical Officer of Health for the city of Manchester, recommends the closure of the Infant Departments of these schools when the proportion of actual cases of measles to the total average attendance is about 10 per cent. The department is closed for three weeks, and the experience of this epidemic shows, that when 10 per cent have been affected before closure, such proportion suffices to prevent the disease again becoming epidemic, when the department is re-opened.

The following schools (Infants' Department) were closed by you, on the recommendation of the Medical Officer of Health, on account of measles.

Christ Church from February 12th March 6th
Hurdsfield (Daybrook St.) from February 14th to March 7th
St. George's (High St.) from February 27th to March 12th
National (Duke St.) from March 21st to April 11th
Newtown (Christ Church) from April 5th to April 25th

WHOOPING COUGH.

Number of Deaths...5.

Death-rate per 1,000 of population...0·13.

Death-rate per 1,000 of population 1899...0·41.

Death-rate per 1,000 of population for England and Wales 1899...0·30.

Quarter	First			Second.			Third.			Fourth.		
Age Periods	Under 1 year.	1 to 5.	5 to 15	Under 1 year.	1 to 5.	5 to 15	Under 1 year.	1 to 5.	5 to 15	Under 1 year.	1 to 5.	5 to 15
West Macclesfield	...	...	...	...	...	...	1	...	...	...	1	...
East Macclesfield	1	...	...	...	1	...	1	...	...	...	...	...
Sutton	...	...	...	...	...	...	...	...	...	...	...	...
Totals	1	...	...	...	1	...	2	...	...	...	1	...

This Table shows, that, the younger the child attacked the greater the liability of the attack proving fatal, generally from broncho-pneumonia or capillary bronchitis.

INFLUENZA.

Number of deaths...17.

Death-rate per 1,000 of population...0·47.

Death-rate per 1,000 of population 1899...0·58.

Quarter	First.				Second.		Third.	Fourth.
Age Periods	5 to 15	15 to25	25 to65	over 65	25 to65	over 65		25 to65
West Macclesfield	1	3	...	4	1	2	...	...
East Macclesfield	...	...	1	...	1		...	1
Sutton		...	...	...	1	1	...	...
Totals	1	3	1	4	3	3	...	1

Influenza was very prevalent during the first half of the year in West Macclesfield.

Two deaths in the Infirmary were attributed to it and one each in the Workhouse and Asylum.

The mortality, which is principally from complications affecting the lungs, is heaviest in elderly people, and points to the necessity of using every means to prevent them becoming infected from a previous case.

Although the number of deaths is less this year than last I believe, the disease was fully as prevalent, but was less severe in type and consequently the case mortality is lower.

An effort should always be made, when a case *first* shows itself in a house or institution, to isolate the sufferer, and to carefully disinfect the sputum.

DANGEROUS INFECTIOUS DISEASES.

By the term dangerous, infectious diseases, is meant, those infectious diseases which can be dealt with under the provisions of the Infectious Disease Prevention Act and the Infectious Disease (Notification) Act of 1899. Under the provisions of the latter act I have received the following number of certificates during the year.

NOTIFICATIONS OF INFECTIOUS DISEASE.

Disease.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total for year ending Dec. 31st, 1900.
Enteric Fever	6	2	5	4	1	2	1	4	11	16	8	2	62—in 1899 35
Scarlet Fever	11	15	2	4	2		2	3	1	2	5	3	50—in 1899 303
Diphtheria	1	1	1	1	1		1	2	2		5	1	16—in 1899 14
Smallpox	1												1—in 1899 0
Erysipelas	6	6	4		1	2	1			1	3	2	26—in 1899 11
Puerperal Fever							1						1—in 1899 1
	25	24	12	9	5	4	6	9	14	19	21	8	156—in 1899 364

The marked decrease is in the Scarlet Fever cases, being 253 less than last year. Enteric fever unfortunately shows a marked increase. Diphtheria a slight increase One case of Smallpox was notified.

SMALL POX.

One case notified. No deaths.

This case occurred in a female attendant at the County Asylum, Parkside.

I first received information of it on January 25th, from the Medical Superintendent. I saw the case, the same day, in company with the Medical Superintendent.

The patient had evidently a mild attack of modified small-pox. There was one indistinct vaccination mark on the left arm. The patient was isolated in the Asylum Isolation block and vaccination and disinfection adequately carried out.

Enquiry showed that she had recently returned from a holiday, near Hay, in Monmouthshire; That she returned to the Asylum, on January 20th, on the 22nd, she began to feel ill.

The Medical Officer of Health for the district where the girl had been visiting was communicated with and enquired into the case, but was unable to find any evidence of Smallpox in the district. The assumption is that she caught the infection whilst travelling in the train.

VACCINATION.

The statistics respecting Vaccination do not include Sutton, which is a separate Vaccination district.

Total number of children Vaccinated in the Macclesfield district	648
Number of certificates of exemption	9
Estimated number of children unvaccinated	2½ to 3 o/o

The latter figure has been arrived at after careful comparision between, the number of children dead, removed and unaccounted for, and is I believe fairly accurate. Certainly not more than 3 per cent are unvaccinated, so that we may congratulate ourselves upon being a well vaccinated community; always bearing in mind, that, the protection afforded by vaccination from smallpox varies directly in proportion to the number and extent of the scars, and inversely, to the length of time which has elapsed since the last successful vaccination was performed.

ENTERIC FEVER.

Number of cases notified	62
,, ,, in 1899	35
Number of deaths	10
Death-rate per 1000 of population	0·27
Fatality rate per 100 notified	14·5
Percentage removed to Isolation Hospital	24

The following table shows the cases notified distributed to the different districts in which they have occurred.

Quarter.	1st	2nd	3rd	4th	Totals.
West Macclesfield.........	10	4	6	5	25
East Macclesfield.........	2	3	8	19	32
Sutton	1	0	2	2	5
Total...........	13	7	16	26	62

We thus see that Enteric fever has prevailed most extensively in East Macclesfield, then in West Macclesfield, and slightly so in Sutton.

There are two epidemic peaks, one occurring during the first quarter of the year in West Macclesfield, characterised by its sudden rise, the second being in East Macclesfield, characterised by its gradual rise, occurring during the last quarter of the year, the ascent beginning during the middle of the third quarter of the year, and gradually attaining its maximum during the last quarter.

The case fatality *i.e.* the proportion of deaths to every 100 cases notified being 14·5 shows, that the disease was of a moderately severe type.

Deaths from Enteric Fever in the different Registration districts.

Quarters	First.		Second.		Third.	Fourth.		
Age periods.	5 to 15	15 to25	15 to25	25 to65	25 to65	15 to25	25 to65	Death-rate per 1,000 of population.
West Macclesfield	1	1	...	1	...	...	2	0·28
East Macclesfield	...	...	1	...	...	1	2	0·38
Sutton	...	...	...	...	1	...		0·19
	1	1	1	1	1	1	4	0·27

Fifty per cent of the deaths occurred during the fourth quarter of the year. Four of the ten deaths were in persons under 25 years of age and the remainder under 50.

This is not a satisfactory record and compares badly with other towns, particularly as the Autumn was cold and damp and so meteorlogical conditions were unfavourable to the spread of enteric fever. In 1899 the death-rate per 1,000 of population from enteric fever in the city of Manchester was 0·13. In London 0·18. In England and Wales 0·20.

Although statistics appear to show that enteric fever is pre-eminently a disease of adult life, I am opinion, that it occurs much more frequently than is suspected in young children, and I have good grounds for believing that several cases have occurred in Macclesfield during the year arising from an unsuspected case of enteric fever in a young child who was supposed to have been suffering for several weeks from diarrhoea, feverishness, &c., but whose blood when examined at the Jenner Institute was reported as giving a marked Widal (Typhoid) reaction.

Again, several cases were reported to me of the Ambulant type of enteric fever, where the sufferer has the disease in so mild a form as not to incapacitate him from following his occupation but who nevertheless, is spreading infection through the stools and urine. These are particularly dangerous cases to the public health in a town which is possessed of a large proportion privy-midddens.

It will thus be seen that the solution of the problem of how the infection is caught is, in many of the cases a most difficult and complicated one and in a large number of cases must be insoluble. Much depends upon the intelligence of the Inspector who visits the house from whence a case has been notified, and I must express my appreciation of the skill and intelligence shown by the Assistant Sanitary Inspector in investigating and tracing to their source some of the cases of enteric fever.

What are the conditions which favour the spread of enteric fever?

The germ of enteric fever (Bacillus Typhosus) when once planted in the soil can live there for an indefinite length of time, it can multiply and grow up to the surface and thence be diffused as fine dust and thus be inhaled or conveyed to the surface of milk, butter and other foods and so enter the system.

We also know, that if the water supply is contaminated by the stools or urine of a typhoid patient gaining access to a well or reservoir enteric fever at once becomes epidemic. In the case of Macclesfield careful examination of the water at frequent intervals and the incidence of the disease on different districts, enables me to state that the water supply is in no way responsible for the spread of enteric fever within the Borough during the year.

We must, I think, look to two sources mainly for the cause of enteric fever spreading within this town. (1.) Infection of the privy-middden with the stools or urine of a typhoid patient, growth of the germ in and around such midden and subsequent aerial diffusion. (2) Direct infection, *i.e.*, infection carried directly by the nurse or other attendant through the careless handling of soiled bed clothes, &c., and the failure to adequately cleanse the hands before preparing or partaking of food.

It must be kept in mind, that sewer gas, bad smells, &c., whilst they lower the general vitality and predispose those exposed to such emenations to take the disease, cannot of themselves cause enteric fever. The specific germ, the *bacillus typhosus*, must gain an entrance into the system, to give rise to true typhoid fever. Out of the 63 cases notified in 52 houses, 43 of the houses had privy-middens, many of them close to the house and in a bad state of repair, 6 had water closets and 3 had pail closets, so that the incidence on privy-midden houses as compared with water closeted houses was enormously greater.

Several cases occurred in Fountain Street East and Green Street where cases had been notified the year before, these houses, in two of the cases, had a midden in common.

In the Cotton Street outbreak during the first quarter of the year, I traced 75 o/o of the cases to direct infection. In the Autumn there was an epidemic focus in lower Hurdsfield in and around Daybrook Street, Fence Street and Waterloo Street, direct infection was undoubtedly responsible for 50 per cent of these cases.

Again, delay in notifying is responsible for some share in the propagation of the disease. When a case is notified, precautionary measures are at once taken to prevent the spread of the infection, a pail for the reception of the stools and urine if the patient is sent, where there is no water closet, and a free supply of disinfectants.

But these measures were helpless to prevent infection spreading, in view of the late period at which many of the case were notified.

The average length of time between the commencement of the illness and the date of notification in this year's cases is 14 days. This delay may be due from the patient and his friends and relatives failing to appreciate the gravity of the illness at an early period, or it may be due to the Medical Attendant delaying having the serum test applied. In this latter connection it is true that the serum test is better applied after the first week.

It is hoped that medical men will freely avail themselves of the serum test, which is now provided by the Health Committee free of cost, and so help to abridge the period of doubtful diagnosis as much as possible.

WIDAL REACTION.

Forty-six samples of blood have been sent to the Jenner Institute during the year.

In 22 a marked Widal (Typhoid) reaction was obtained
,, 2 ,, feeble ,, ,, ,, ,, ,,
,, 24 No reaction was obtained.

The Institute use serum diluted 1 in 30 with an hours observation.

Experience has shown, that, when the reaction is obtained, under these conditions, it is sound evidence of present or past enteric fever.

We have been enabled, by means of this test to trace cases of infection to sources which otherwise would never have been suspected.

DIPHTHERIA.

Total number of cases notified...16.
Total number of cases notified in 1899...14.
Number of Deaths...5.
Number of Deaths in 1899...0.
Death-rate per 1,000 of population...0·13
City of Manchester death-rate per 1,000 of population 1899...0·16
Case fatality per cent notified...31·2
Percentage removed to Isolation Hospital...25·

Table showing distribution of cases notified according to district and age periods.

Quarters—	First.		Second.	Third.		Fourth.			Totals.
Age periods	1 to 5	5 to 15	5 to 15	1 to 5	5 to 15	1 to 5	5 to 15	25 to65	All ages.
West Macclesfield...	2	...	1	1	...	2	...	1	7
East Macclesfield...	...	1	...	2	1	2	1	...	7
Sutton	...	...	1	1	...	...	...	...	2
Totals ...	2	1	2	4	1	4	1	1	16

It will be noticed that, although the number of cases notified this year only exceeds last years number by 2, still the mortality is much higher which suggests that not only is the disease spreading in the Borough, but that it is of a more severe type, the case fatality confirms this latter opinion.

East Macclesfield and Hurdsfield have had an equal number of cases.

The mortality is highest during the first five years of life as shewn in the following Table.

MORTALITY FROM DIPHTHERIA.

Quarters—	First.	Second.	Third.	Fourth.	
Age periods.	1 to 5.	5 to 15.	1 to 5.	1 to 5.	Death-rate per 1,000 of population.
West Macclesfield...	1		1	1	0·16
East Macclesfield...		1		1	0·15
Sutton					
	1	1	1	2	0·13

Number of specimens bacteriologically examined at the Jenner Institute

Total number examined...14.

Number of cases in which true bacillus Diptheriae isolated 6. Psendo-diphtheriae bacillus isolated in 2 cases.

In one case, where the bacillus was *not* isolated, the patient died from Diphtheritic paralysis. This is probably due to the fact, that the frequent swabbing of the throat with antiseptics destroys the bacteria on the surface.

At the Isolation Hospital, I have frequently failed to obtain the bacillus from the throat after carefully swabbing, but a specimen taken from the nose at the same time was found to contain the organism.

If, from the "sore throat" of an individual a swab is carefully taken and is found to contain a fair proportion of the large bacillus Diphtheri ae, such individual should be considered to be suffering from true Diphtheria.

The Health Committee provides, free of cost to all medical practitioners practising within the Borough, a complete outfit for taking specimens from suspected throats.

SCARLET FEVER.

Total number of cases notified...50.

Total number of cases notified in 1899...303.

Number of deaths...1

Percentage of cases removed to Isolation Hospital...38

Cases notified distributed to the districts in which they occurred and to the quarter of the year.

Quarter	First.	Second.	Third.	Fourth.	Total.
West Macclesfield ...	12	2	1	5	20
East Macclesfield ...	6	2	1	3	12
Sutton	10	2	4	2	18
Totals...	28	6	6	10	50

45 of these 50 cases were in children under 15 years of age. 21 were between 1 to 5 years. 24 were between ages 5 to 15.

The one death occurred during the first quarter of the year in West Macclesfield and was in a child under 5 years of age.

The decrease in the number of cases of Scarlet Fever, is I believe, due two causes—

(1) The extensive epidemic of last year burnt up a great part of the susceptible material. In three or four years, more children will be ready and susceptible to attack.

(2) We have been fortunate, in being able to isolate those cases in Hospital where the home surroundings were conducive to the spread of infection.

The mortality, directly, ascribed to scarlet fever by no means represents the damage which the community suffers from this disease. Deafness, discharges from the ear, kidney diseases and conditions of general weakness, are left behind in a large number of cases.

The importance of shielding young children from attacks of scarlet fever has been well expressed by Dr. Whitelegge:—"In shielding a child against infection, during the first year of life, there is a double gain; every year of escape from Scarlet fever renders him less and less susceptible, until finally he becomes almost insusceptible; and secondly even if he should ultimately take the disease every year that the attack is deferred reduces the danger to life which it brings."

The same reasoning applies with almost equal force to Measles and Whooping Cough.

THE ISOLATION HOSPITAL.

Total number of patients admitted during the year...37.

Number of deaths...4.
Death-rate per cent admitted...10·8.

The number of diseases treated has been as follows :—

Scarlet Fever..................	19...no deaths.
Diphtheria	4...1 death.
Enteric Fever..................	13...2 deaths.
Pleuro-pneumonia, admitted as Enteric Fever	1...1 death.
Total...	37...4 deaths.

The Hospital, has practically, been open continuously the whole year.

The cost of the Hospital for the year as been as follows :—

	£	s.	d.
Food and Drugs	86	7	2
Nursing, Medical Attendance, &c. ...	130	13	11
Maintenance of structure, &c.	7	11	1
	£224	12	2

Districts from which patients have been admitted—

Districts.	Scarlet Fever.	Enteric Fever.	Diphtheria.	Totals.
West Macclesfield...	8	2	1	11
East Macclesfield...	6	10	2	18
Sutton	5	2	1	8

All the cases have been attended, whilst in the Hospital, by the Medical Officer of Health.

I am very well pleased to report that during the last quarter of the year an extension of accommodation has been provided at this hospital.

Messrs. Humphreys, of London, have erected for the Health Committee one of their Iron Hospitals to contain ten beds and capable of isolating two infectious diseases, according to the model of the Local Government Board.

When this is completed we shall have twenty-two beds at our disposal, retaining of course the old Ducker Hospital of twelve beds, and we shall be able to isolate three diseases. Twelve in one block and five in each of the new blocks.

A Nurses' iron cottage, separate from the hospital, has also been erected.

We now require an adequate Disinfector, and I suggest that a Thresh current steam disinfector should be erected at a cost of about £150. This would be a most valuable adjunct to the new hospital by enabling the Sanitary Officials to efficiently sterilise infected clothing, bedding, &c., which we are unable to do at present.

DISINFECTION.

During the year we have substituted Formic aldehyde as our aerial disinfectant, in place of sulphurous acid. It is easier to manipulate and I believe equally as efficient. It has, of course, like sulphurous acid little or no power of penetrating into the interior of bedding, &c., hence the importance of a current steam disinfector by means of which super-heated steam can be caused to penetrate such substances as clothing, bedding, &c., within an hour or so, destroy all the infectious material which may be lurking within.

In place of carbolic powder and carbolic acid we are using chlorine in the form of chloros which contains 10 o/o chlorine available and is a red liquid. Also,

Chloride of Lime	containing	35o/o	available chlorine
Sanitary Chloride of Lime	,,	10o/o	,, ,,

When we have reason to believe that the stools or urine of a person suffering from enteric fever have been thrown into a privy-midden it is at once emptied carefully scraped and the sides and walls well and thickly covered with strong chloride of lime white wash.

The whitened walls serve for months after as a reminder of the fact that as, certain number of ashpits have been infected with enteric excreta, and extra care is taken how such ashpits are emptied, and where the material is deposited, previously to being carted away.

PAUPER SICKNESS.

By means of these returns of pauper sickness, a very fair estimate of the prevalence of diseases amongst the poorest classes can be obtained. If in addition, the Medical Officer of Health, could be supplied with weekly or fortnightly returns of sickness from the General Infirmary, such returns specifying the number of new In-patients, Out-patients and Home-patients together with the age, sex, residence and nature of illness, such Statistics would prove of great value in the study of the Annual, Seasonal and District incidence of disease in this Borough.

Number of new cases of sickness admitted into the Workhouse from the Borough during 1900.

January	8
February	3
March...........	5
April	4
May	4
June	6...1 from outside Borough.
July	8

August	2	
September......	6	...1 from outside Borough.
October	11	
November	3	
December	6	...2 from outside Borough.
Total...	66	...4 from outside Borough.

Number of cases of sickness occurring amongst out-door paupers in the Borough.

January	38
February	43
March	52
April	24
May	27
June	40
July	30
August	39
September	30
October	35
November	14
December...	46
Total...	418

The following is a list of some of the principal diseases occurring amongst out-door Paupers.

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Influenza	5	6	12	6	2	4	1	1	4	1	1	6	49
Bronchitis	5	5	3	4	3	2	1	1	3	5	6	7	45
Phthisis & Tuberculosis	2	1	1	1	0	3	4	1	1	5	3	6	28
Diarrhoea	0	1	4	0	2	1	6	9	9	3	0	1	36
Measles	0	4	6	2	0	0	0	0	0	0	0	0	12
Enteric Fever	2	5	0	0	0	0	0	0	0	0	0	0	7
Pneumonia	0	1	3	0	1	0	0	0	0	1	0	0	6
Totals	14	23	33	13	9	10	12	12	17	15	10	20	183

It is interesting to compare these *Sickness* statistics with the corresponding mortality statistics. Taking the disease Influenza, diseases of the Respiratory organs and diarrhoea.

We find that the sickness returns relate to the commencement of the illness, whilst the mortality figures relate to the termination when fatal. We find as we should expect that the highest number of cases of *sickness* precedes the highest *mortality* figure, and that the rise is more sudden in the sickness returns,

The deaths not occurring immediately after the attacks but being spread out over several weeks.

The following Table shows the cases of Phthisis, Diarrhœa and Influenza distributed to the districts in which they have occurred.

	West Macclesfield.	East Macclesfield.	Hurdsfield.	Sutton.
Diarrhoea.........	17	19	0	2
Influenza	21	21	2	1
Phthisis	7	11	0	2

If we examine the districts more carefully we find that in West Macclesfield, Derby street, King Edward street, Nixon's yard and the courts abutting these, the sickness rates fall heavily·

In East Macclesfield, Pickford street, particularly the courts and the Watercotes have an undue proportion of sickness and taking Phthisis and Diarrhœa as our guides, in the endeavour to discover the insanitary areas, we should be justified in paying particular attention to the above neighbourhoods.

SCAVENGING AND REFUSE REMOVAL.

Some important changes have been made during the year in this unostentatious though most important Sanitary Department. The management has been transferred, from the Borough Surveyor to the Medical Officer of Health, a capable foreman having been appointed to act under the directions of the Medical Officer. The management of the Danes Moss Farm has been similarly transferred ; in the case of the farm a resolution was passed that, whilst its general management was transferred to Foreman Hill under the direction of the Medical Officer of Health, the Sewage Sub-committee be requested to superintend the management of the Moss Farm.

The following is a list of the duties of the Night-soil Foreman approved by the Health Committee.

BOROUGH OF MACCLESFIELD.

HEALTH COMMITTEE.

DUTIES OF NIGHTSOIL FOREMAN.

---

1. To attend at the Sanitary Office daily at 8-30 a.m. to make reports to the Medical Officer, or the Officer appointed by him, and to receive orders respecting the same.

2. To attend at 8-30 p.m. at the Depot to give instructions to both Nightsoilers and Carters.

3. To superintend and see to the carrying out of the thorough cleansing and removal of all dry ashpits, privies, factory tanks, and slaughterhouse refuse within the Borough.

4. To superintend the Nightsoilers and Carters, and to certify to the accuracy of their time sheets.

5. With the approval or sanction of the Medical Officer of Health, to enage the men and carts required from time to time.

6. To keep the undermentioned books, &c. :—

   (*i*) Carters' Report Book of work done each night.
   (*ii*) Time Sheets of Nightsoilers.
   (*iii*) Report Book of Defective Structures.

7. Generally to carry out all instructions given to him by the Medical Officer of Health, or the Officer appointed by him.

8. The engagement will be subject to one week's notice on either side, except in case of neglect of duty or incapacity, when he will be liable to dismissal without notice.

The nightsoil foreman commenced duties on June 9th.

The following table gives the nightsoil return for the last 12 years.

Year.	Number of Loads.	Expenditure. £	s.	d.
1888	10338	821	18	7
1889	10295	933	16	4
1890	8523	847	13	9
1891	10187	1328	9	10
1892	9957	1521	8	6
1893	10975	1837	1	9
1894	12703	1714	15	8
1895	12289	1652	16	8
1896	12407	1807	12	6
1897	13283	2006	2	3
1898	13619	2104	2	4
1899	13040	2169	16	10
1900	12057	2093	10	0

The greater part of this refuse is deposited on the Moss Farm, a certain quantity is sold to farmers but, with the gradual increase in water closets and decrease in the insanitary privy-midden, the value to the farmer of the nightsoil is becoming less.

How important a part proper scavenging plays in keeping a town healthy is shown by the experience of the Medical Officer of Health for Leeds who in 1892 had a district in that town, about one-tenth of the area of the city, specially scavenged so as to ensure the complete removal of all filth and he states that it was the only district in which the death-rate from summer diarrhoea in that year did not exceed the rate for 1891.

The nightsoil foreman has been instructed to pay particular attention to East Macclesfield, where our mortality rates are so high. I propose that you should sanction the swilling of some of the courts, entries and passages twice a week during the hot weather with clean water to which a little chlorine water has been added. This work might be carried out at a comparatively small cost and would I believe prove very beneficial to the public health.

The following table shows the present state of closet accommodation, and the proportion of water-closets to privy-middens.

No. of Privy Closets	No of Waste water Closet.	No. of Clean-water Closets.
1897—4319	260	674
1898—4157	301	710
1899—3942	309	815
1900—3862	309	940

The gradual conversion of the privy-middens into water-closets and dry ash bins is a matter which is most satisfactory to contemplate, and when it has become general it will inevitably lead to a great improvement in the health of the inhabitants of the Borough; on the other hand many complaints have made to me during the year of the unsatisfactory way in which some of these water-closets have been built and drained.

If the drains are badly laid, and as a result become leaky then the conversion of privy-middens into water-closets in such cases will prove disasterous to health, for the subsoil will soon become saturated with human excreta and the mischief being underground will be hidden and therefore more dangerous still.

I am therefore strongly of opinion that it is most desirable that all drainers should be registered and responsible to you as the Sanitary Authority. In some cases any Tom, Dick and Harry is considered good enough to lay a drain pipe. It is thought necessary for Plumbers to be registered, whose work is mainly above ground, and defects thereof soon become obvious to sight and smell then how much more necessary is it, that the man who lays the drains underground and out of sight and whose scamped work may be the cause of sickness and death, should be placed under proper supervision.

This is a matter which I would respectfully commend to your most serious consideration, otherwise your efforts to improve the Sanitary state of the Borough may be defeated and the very means by which you were endeavouring to make the town sweet and clean may become converted into a means of spreading disease broadcast.

The majority of drainers in the town whose work is satisfactory would I am convinced gladly welcome such salutory supervision.

WATER SUPPLY.

I have had the water supply of the Borough under close observation during the year and samples have been repeatedly sent to the Borough Analyst.

A considerable portion of Hurdsfield is supplied by a private water-works. Some few houses above the canal in Hollins Road are supplied with water direct from the main running from the storage resevoirs at Langley to the filter beds and consequently such water is only purified by storage and sedimentation.

WATER ANALYSIS. (Town's Water).

Report upon a sample of water labelled "Taken from the Butter Market" Sample taken June 13th :—

	Grains per gallon.
Chlorine (combined).....................	1·065
Ureal Ammonia...........................	0·0014
Albuminoid Ammonia	0·0028
Nitrogen as nitrates & nitrites.........	0·0201
Oxygen absorbed in 4 hours at 80° F.	0·0960

Total hardness 12 degrees.

The analysis shows this be a good water.

(Signed) C. ESTCOURT, F.I.C.

Sample taken June 25th, 1900—

	Grains per gallon.
Chlorine (combined).....................	1·065
Ureal Ammonia...........................	0·0014
Albuminoid Ammonia	0·0028
Nitrogen as nitrites & nitrates.........	0·0201
Oxygen absorbed in 4 hours at 80° F.	0·0060

Total hardness 12 degrees.

The analysis shows this to be a good water.

(Signed) C. ESTCOURT, F.C.S., &c.

Sample taken July 31st, 1900—

	Grains per gallon.
Chlorine (combined).....................	1·065
Ureal Ammonia...........................	0·0014
Albuminoid Ammonia	0·0042
Nitrogen as nitrites & nitrates.........	0·0357
Oxygen absorbed in 4 hours at 80° F.	0·0860

Total hardness 10½ degrees.

The analysis shows this to be a good water.

(Signed) C. ESTCOURT, F.C.S.

Sample taken October 3rd, 1900, from 78, Crompton road.

	Grains per gallon.
Chlorine (combined)	0·888
Ureal Ammonia	0·0014
Albuminoid Ammonia	0 0014
Nitrogen as nitrates & nitrites	0·0447
Oxygen absorbed at 80o F. in 4 hours	0 0820

Total hardness 12o.

No metallic impurity.

This analysis shows the sample to be a good water.

(Signed) C. ESTCOURT, F.C.S., &c.

Sample taken from Butter Market, December 12th, 1900.

	Grains per gallon.
Chlorine (combined)	0·958
Ureal Ammonia	0 0007
Albuminoid Ammonia	0·0070
Nitrogen as nitrates & nitrites	0 0631
Oxygen absorbed in 4 hours at 80o F.	0 08

Total hardness 13o.

The water is free from odour, clear and bright. This water is of very fair quality.

(Signed) C. ESTCOURT, F.C.S., &c.

HURDSFIELD WATER.

The next sample is one of Hurdsfield Water not supplied from Corporation Mains.

Taken from Royal Oak, Hurdsfield Road, October 30th 1900

	Grains per gallon.
Chlorine (combined)	1·171
Ureal Ammonia	0·0021
Albuminoid Ammonia	0 0007
Nitrogen as nitrates, &c.	0·0672
Oxygen absorbed at 80o F in 4 hours	0·100

Total hardness 14o.

This water was clear, free from smell or sediment, and was of a yellowish colour, in a two foot tube.

This Analysis shows the sample to be of modorate quality.

(Signed) C. ESTCOURT, F.C.S., &c.

This next sample is again Hurdsfield Water not supplied by the Corporation.

Sample taken from 103, Hurdsfield Road, Dec. 12th, 1900.

	Grains per gallon.
Chlorine (combined)....................	1·278
Ureal Ammonia..........................	0·0007
Albuminoid Ammonia	0·0084
Nitrogen as nitrates, &c.	0·0448
Oxygen absorbed in 4 hours at 80o F	0·08

Hardness 14.

This water is clear and bright and has no odour.

This is a water of very fair quality.

(Signed) C. ESTCOURT, F.C.S., &c.

TOWN'S WATER BEFORE FILTRATION.

I had this sample of water analysed in consequence of a complaint made to me respecting the quantity of sediment in this water supplied to houses in and around Hollins Road.

The next sample is the one taken direct from the Langley main before filtration through the filter beds.

Sample taken from The Mount, Hollins road, Dec. 12th, 1900

	Grains per gallon.
Chlorine (combined)....................	1·029
Ureal Ammonia..........................	0·0007
Albuminoid Ammonia	0·0084
Nitrogen as nitrates & nitrites.........	0·0630
Oxygen absorbed in 4 hours at 80o F	0·130

Hardness 10o.

This water is clear and bright and has no odour. The Oxygen absorbed is rather high. This is a water of moderate quality.

(Signed) C. ESTCOURT, F.C.S.

The principal danger of pollution to our water lies in the possibility of sewage gaining access to the feeder streams when flowing near to farm-houses.

SEWERING.

Nine streets were sewered during the year, including portions of London Road, Mill Lane, and Mill Street, Cross Street and Half Street, Sutton; Heapy Street, Brunswick Street' Garden Street, surface water drain; Steeple Street, sewer and surface drain.

During the year an enquiry was held by the Local Government, respecting the application of the Town Council, for powers to borrow about £7,000 for sewering of streets.

The Local Government Board have promised to sanction the borrowing of the money required, subject to it being repaid within 25 years. The repayment within this period would cost £75 a year, more than the full period of 45 years allowed by the Local Act of 1882.

In the earlier part of the year, a communication was received from the Local Government Board, asking that the Town Council would request their Medical Officer of Health to furnish them with a Report on:—

1—The present condition of the drainage of Hurdsfield Road, Garden street and Lansdowne street.

2—On the condition of the Bollin.

3—On the allegations of Mr. Laycock, with reference to the drainage of the Elementary Schools in Lansdowne street.

4—As to how a system of drainage is necessary in the Hurdsfield district.

This extensive report your Medical Officer of Health prepared and a copy was transmitted to the Local Government Board.

Later in the year, the Borough Surveyor was instructed to prepare plans for the Sewering of Hurdsfield road and Lansdowne street. This was done, and the cost estimated to be £2003.

The Town Clerk was then instructed to apply to the Local Government Board, for sanction to borrow this money.

Until Hurdsfield is sewered it is impossible to take any effective steps, to remedy nuisances arising from defective drains, privy middens, &c. The same remark holds good for all the unsewered parts of the Borough.

When all the streets are sewered, for which permission has now been given to borrow the money, much slop water, which at present enters the Bollin, will be diverted into the main sewer.

In November, an application was made before the magistrates for an extension of the Mersey and Irwell Joint Committee's Order, under The Rivers Pollution Prevention Acts. A twelve months further extension was granted.

THE HOUSING OF THE WORKING CLASSES.

Although no representations have been made Part I or Part II of the Housing of the Working Classes Act, It must not be assumed that no steps have been otherwise taken to improve the dwellings of the worker.

The Housing problem, which is a complex one at all times, is peculiarly so in this Borough.

Most of the cottages and small houses are old and many are dilapidated.

Again, "Derelict" houses are scattered all over the town, *i.e.* houses which have been closed on the representations of previous Medical Officers of Health, and have neither been put into a Sanitary condition nor demolished by their owners, but are slowly disintegrating under the influence of wind and weather, and the predlatory instincts of neighbours.

These "direlects" form dangerous play-grounds for children, and receptacles for all the rubbish of the neighbourhood.

Although there are still a large number of grossly insanitary houses in the Borough, the attempt to deal with all these at one time by wholesale closing orders, will only result in terrible over-crowding of the remaining dwellings.

The policy so far pursued, when dealing with unhealthy dwellings has been to first approach the owner, and ask him if he is willing to put these houses in a decently sanitary state, without legal pressure. In many cases the property owner will do what the Medical Officer of Health requires, and so the desired result is attained. In view of the fact that only 43 new houses were commenced in the Borough during last year and many of these were for middle class people few or no cottages being built, it is in my opinion preferable to induce the owners to make their houses reasonably healthy rather than by closing them to convert them into "Derelicts" and cause overcrowding.

Where the owner professes inability to carry out the reasonable and moderate requirements of the Sanitary Authority, it would in my opinion be a wise step for the Local Authority to purchase some such houses, which, since they are insanitary and would on that ground be closed could be obtained for a moderate sum and themselves put them into a sanitary condition, not necessarily rebuilding but making such alterations as would ensure good ventilation, proper lighting, water supply and suitable conveniences. The experiment is I believe, well worth making in this town and a district might be selected where experience and the mortality rates show that insanitary conditions do most prevail. The initial outlay need not exceed a few hundreds of pounds and the rents would I believe show sufficient return to prevent any loss being suffered by the ratepayer.

COMMON LODGING HOUSES.

I have personally inspected all these houses during the year. I can but repeated what I said in my last Annual Report, viz., that they are old fashioned, out-of-date and ill-adapted for the purpose which they serve.

It would be in the interests of decency, health, and morality if the Town Council would build a good Model Lodging House.

The Sanitary Inspector's Report shows that no less than 39,277 nightly lodgers were accommodated in the present houses during the year.

You cannot afford to ignore this class of people, travelling from town to town as most of them do, they may at any time bring disease with them and start an epidemic in some of the most densely populated parts of the Borough.

If some houses are bought by the Local Authority in the centre of the town and made structurally fit for use as a Model Lodging House, the cost would not be great, then many of the present ones could be closed, as being altogether unfit for the purpose for which they are used. Such a Model Lodging would I am convinced show a handsome return for the outlay.

DAIRIES, COWSHEDS AND MILKSHOPS.

The Register shows that there are about 60 persons registered as cow-keepers and milk-sellers within the Borough.

In the case of 25 shippons the *ventilating* is declared not to be satisfactory, in many others ample means of ventilation are provided but are purposely blocked up with hay, straw, &c,., In 12 the cowsheds were dirty and several others only moderately clean.

The lighting is in most cases unsatisfactory. In every case when the inspection was made there had been no provision made for cleansing the cows or their udders before milking.

This cannot be considered a satisfactory record and points to the necessity for more attention being paid to this important department of sanitary supervision.

Tuberculosis flourishes amongst cattle, as amongst human beings when there is an inadequate supply of light andair.

The importance of cleansing the cows udders before milking would, one would have thought been self-evident and yet there seems to have been scarcely any provision made for so doing I would recommend that samples of milk should be taken and examined periodically for the presence of the germ which causes tuberculosis, and that when it is found in a sample of milk a more detailed inspection of the cows from whence the dangerous milk comes should be made, particular attention being paid for tuberculosis of the udder, and the tuberculin test used if necessary.

NEW DWELLING HOUSES.

Forty-three new houses were commenced during the year, having a gross rental of £760.

Although we have model bye-laws in force in the district anyone with a practical acquaintances of the difficulties of superintending the erection of new buildings will see how absurd it is to expect the Surveyor, to be able to give the time necessary to see that the details of the building bye-laws are properly carried out.

The appointment of a Building Inspector would meet this difficulty, whose duty it would be to periodically inspect new buildings in the course of construction and when finished to give a certificate of satisfactory completion.

A small fee might be charged for this inspection and certificate.

Appended are the Sanitary Inspector's Report and more stastitical Tables.

I have the honour to remain,

Gentlemen,

Your obedient servant,

J. HEDLEY MARSH,

Medical Officer of Health.

SANITARY DEPARTMENT.

Number of	Complaints received at Office	237
,,	Nuisances found out on inspection...	324
,,	Nuisances abated and written off the Books ...	508
,,	Preliminary notices and letters in reference to nuisances sent	460
,,	Statutory notices served	172
,,	Magistrates orders obtained...	0
,,	Persons summoned before the Justices for offences under the Public Health Act	5
,,	Privies and ashpits repaired and improved... ...	40
,,	converted into water closets	81
,,	Closets re-built on water carriage system...	125
	on privy system	4
,,	House drains repaired and cleaned...	129
,,	Slop-stone pipes disconnected from the Sewer ...	27
,,	House drains tested with smoke apparatus ...	59
,,	Other nuisances abated (not specified above) ...	159
,,	Visits paid to Common Lodging houses	665
,,	Nightly lodgers accommodated at the common Lodging Houses during the year	39277
,,	Visits paid to Factories and Workshops	134
,,	,, the Dairies, Cowsheds and Milk Shops	319
,,	Visits paid to the Registered Slaughter Houses ...	432
,,	,, ,, Tripe dressing places	75
,,	,, ,, Registered Bakehouses	167
,,	,, ,, Dirty and overcrowded houses ...	299
,,	Houses inspected in the Districts of Hurdsfield, Sutton	1960

The distribution of Lime-wash Brushes and Disinfectants to the poor has been as follows :—

Lime-wash	202
Brushes lent for applying same ...	495
Disinfectants	4434

Number of	Houses specially inspected on account of Infectious Diseases	158
,,	Visits paid to same	628
,,	Notices sent to schools and parents re the isolation of Children where infectious disease exists ...	341
,,	Pails containing Typhoid excrement removed disinfected and buried	1116

Number of Supplies of Disinfectants specially on account of Infectious Disease	744
,, Houses fumigated after Infectious Diseases ...	156
,, ,, ,, deaths from Consumption...	8
,, Cases removed to Isolation Hospital	37
,, Canal Boats inspected	70
,, Samples taken under the sale of Food and Drugs Act &c., submitted to the Borough Analyst 91 viz:—25 Beers, 38 Milk, 11 Vinegar, 6 Coffee, 3 Butter and 8 Water, viz:—6 towns, 2 Hurdsfield	
,, Persons proceeded against for offences under the Sale of Food and Drugs Act	5

There have been four whole carcasses of beef destroyed, three affected with tuberculosis, and one with black quarter, 60 lbs. of beef, about 40 lbs. of Pork, one rabbit and 3 lbs. sausage.

One Magistrates order was obtained for destruction of same.

There has been no outbreak of Contagious Diseases amongst animals within the Borough during the year.

The shippon accommodation at two farms has been constructed on an improved principle.

I have the honour to remain,

Gentlemen,

Your obedient servant,

WILLIAM JENKINS,

Sanitary Inspector.

Returns of Births and Deaths during the First quarter of the year, 1900.

Districts.	Area in Acres.	Population.	Births registered Jan., Feb. and Mar., 1900.	Deaths registered Jan., Feb. and Mar., 1900.	Infantile Mortality		Deaths of persons over 65 years.	7 Zymotic Diseases.							Influenza.	Deaths from violence.	Inquests.	Deaths in Public Institutions.	Annual rate of Mortality per 1000 living excluding deaths in Public Institutions, of persons not belonging to the Borough.	
					Under 1 year.	Over 1 year and under 5 years.		Smallpox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough	Fevers.	Diarrhœa.					From all causes.	From Zymotic Diseases.
*West Macclesfield	1716	17854	102	167	19	9	57	...	4	1	1	...	2	4	8	7	11	74	31·3	2·6
East Macclesfield and Hurdsfield	1155	13095	60	52	14	7	15	...	2	...	1	1	...	1	1	7	3		15·1	1·5
Sutton	360	5051	26	30	5	1	12	...	1	...	...	...	...	1					23·7	1·5
Total for the Borough...	3231	36000	188	249	38	17	84	...	7	1	2	1	2	6	9	14	14	74	24·6	1·8

Number of deaths in Public Institutions of persons not belonging to the Borough 27 { Workhouse 3
Asylum 24

Birth-rate for this quarter 20·8 Birth-rate for corresponding quarter of last year 23·7

* Including deaths in Cheshire County Lunatic Asylum, Parkside ; the Macclesfield Union Workhouse ; and the Macclesfield Infirmary.

Returns of Births and Deaths during the Second quarter of the year, 1900.

Districts.	Area in Acres.	Population.	Births registered April, May and June, 1900.	Deaths registered April, May, and June, 1900.	Infantile Mortality		Deaths of persons over 65 years.	7 Zymotic Diseases.							Influenza.	Deaths from violence.	Inquests.	Deaths in Public Institutions.	Annual rate of Mortality per 1000 living excluding deaths in Public Institutions, of persons not belonging to the Borough.	
					Under 1 year.	Over 1 year and under 5 years.		Smallpox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough	Fevers.	Diarrhœa.					From all causes.	From Zymotic Diseases.
*West Macclesfield	1716	17854	110	90	18	7	22	...	3	...	...	...	1	1	3	4	4	33	17·2	1·1
East Macclesfield and Hurdsfield	1155	13095	94	60	19	4	10	...	1	...	...	1	1	...	1	1	5		18·2	·9
Sutton	360	5051	17	19	4	2	6	...	...	...	...	...	...	2	2				15·	1·5
Total for the Borough...	3231	36000	221	169	41	13	38	...	4	...	...	1	2	3	6	5	9	33	17·3	1 1

Number of deaths in Public Institutions of persons not belonging to the Borough 13 { Workhouse 12
Asylum 1

Infantile Mortality rate—185 per 1000 births.

Birth-rate for this quarter 24·5. Birth-rate for corresponding quarter of last year 25·8

* Including deaths in Cheshire County Lunatic Asylum, Parkside ; the Macclesfield Union Workhouse ; and the Macclesfield Infirmary.

Returns of Births and Deaths during the Third quarter of the year, 1900.

Districts.	Area in Acres.	Population.	Births registered July, Aug. and Sept. 1900.	Deaths registered July, Aug. and Sept., 1900.	Infantile Mortality		Deaths of persons over 65 years.	7 Zymotic Diseases.							Influenza.	Deaths from violence.	Inquests.	Deaths in Public Institutions.	Annual rate of Mortality per 1000 living excluding deaths in Public Institutions, of persons not belonging to the Borough.	
					Under 1 year.	Over 1 year and under 5 years.		Smallpox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough	Fevers.	Diarrhœa.					From all causes.	From Zymotic Diseases.
*West Macclesfield	1716	17854	118	97	19	11	22	...	...	...	1	...	...	9	1	4	6	33	20·1	2·2
East Macclesfield and Hurdsfield	1155	13095	76	53	25	4	9	...	...	...	...	1	...	9	...	1	1		16·1	3·
Sutton	360	5051	43	18	5	0	7	...	...	...	...	...	1	3	...				14·2	3·
Total for the Borough...	3231	36000	237	168	49	15	38	...	...	...	1	1	1	21	1	5	7	36	17·8	2·6

Number of deaths in Public Institutions of persons not belonging to the Borough { Workhouse 5
Asylum 2

Infantile Mortality rate—206 per 1000 births.

Birth-rate for this quarter 26 3. Birth-rate for corresponding quarter of last year 25·1

* Including deaths in Cheshire County Lunatic Asylum, Parkside; the Macclesfield Union Workhouse; and the Macclesfield Infirmary.

Returns of Births and Deaths during the Fourth quarter of the year, 1900.

Districts.	Area in Acres.	Population.	Births registered Oct., Nov. and Dec., 1900.	Deaths registered Oct., Nov. and Dec., 1900.	Infantile Mortality		Deaths of persons over 65 years.	7 Zymotic Diseases.							Influenza	Deaths from violence.	Inquests.	Deaths in Public Institutions.	Annual rate of Mortality per 1000 living excluding deaths in Public Institutions, of persons not belonging to the Borough.	
					Under 1 year.	Over 1 year and under 5 years.		Smallpox.	Measles.	Scarlatina	Diphtheria	Whooping Cough	Fevers.	Diarrhœa.					From all causes.	From Zymotic Diseases.
*West Macclesfield	1716	17854	99	110	14	7	47	...	...	...	1	1	3	4	...	3	11	37	20 3	2·0
East Macclesfield and Hurdsfield	1155	13095	75	59	16	4	17	...	...	...	1	...	2	2	1				18 0	1·8
Sutton	360	5051	33	17	3	0	8	...	...	...	...	...	...	...	...		1		13·8	·7
Total for the Borough...	3231	36000	207	186	33	11	72	...	...	...	2	1	5	6	1	3	12	37	18·5	1·5

Number of deaths in Public Institutions of persons not belonging to he Borough 19 { Workhouse 16
Asylum 3

Infantile Mortality rate...151 per 1000 births.

Birth-rate for this quarter 23 0. Birth-rate for corresponding quarter of last year 23·7

*Including deaths in Cheshire County Lunatic Asylum, Parkside; the Macclesfield Union Workhouse; and the Macclesfield Infirmary.

Borough of Macclesfield Statistical Summary returns of Births and Deaths during the Year, 1900.

Districts.	Area in Acres.	Population.	Births registered during the year 1900.	Deaths registered during the year 1900.	Infantile Mortality		Deaths of Persons over 65 years.	7 Zymotic Diseases.							Influenza.	Deaths from violence.	Inquests.	Deaths in Public Institutions	Annual rate of Mortality per 1000 living, excluding deaths in Public Institutions of persons not belonging to the Borough.	
					Under 1 year.	Over 1 year and under 5 years.		Smallpox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Fevers.	Diarrhœa.					From all causes.	From Zymotic Diseases.
*West Macclesfield	1716	17854	429	464	72	34	139	...	7	1	3	2	6	18	12	18	32	180	22·2	2·0
East Macclesfield and Hurdsfield	1155	13095	305	224	74	19	51	...	3	...	2	3	3	12	3	9	9		17·1	1·7
Sutton	360	5051	119	84	17	6	33	...	1	...	...	...	1	4	2		1		16·6	·9
Total for the Borough	3231	36000	853	772	163	59	223	...	11	1	5	5	10	34	17	27	42	180	19·6	1·8

Number of deaths in Public Institutions of persons not belonging to the Borough 66 { Asylum 57 deaths.
Workhouse 9 "

Infantile Mortality Rate ... 190 to 1000 births

Birth-rate for this Year 23·6

Birth-rate for last Year 24·6

*Including deaths in Cheshire County Lunatic Asylum, Parkside; the Macclesfield Union Workhouse; and the Macclesfield Infirmary

TABLE I.

Name of District Macclesfield.

For Whole District.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		DEATHS UNDER ONE YEAR OF AGE.		DEATHS AT ALL AGES. TOTAL.		DEATHS IN PUBLIC INSTITUTIONS.	Deaths of Non-residents registered in District.	Deaths of Residents registered beyond District.	DEATHS AT ALL AGES. NETT.	
		Number.	Rate.	Number.	Rate per 1000 Births registered.	Number.	Rate *				Number.	Rate*
1	2	3	4	5	6	7	8	9	10	11	12	13
1890	37514	1013	27·0	176	172	838	23·9	110	66		822	21·9
1891	36009	1009	28 1	130	130	816	22·6	135	67		749	20·8
1892	36009	989	27 4	201	203	986	27·3	156	81		905	25·1
1893	36009	931	25·9	177	190	845	23·4	191	101		744	20·6
1894	36009	1017	28·2	136	134	732	20 3	160	89		643	17·7
1895	36000	917	25 4	199	217	903	25·2	132	95		813	22·5
1896	36000	964	26·8	150	55	732	20·3	150	67		665	18·4
1897	36000	977	27·1	171	175	825	22·9	179	93	2	734	20·3
1898	36000	953	26·4	166	174	757	21·0	151	88	1	670	18·6
1899	36000	886	24·6	174	196	810	22·5	188	73		737	20·4
Averages for years 1890—1900	36000		26·6		174		22·9	163	82			20 6
1900	36000	853	23·6	163	190	772	21·4	180	66	3	709	19·7

* Rates calculated per 1,000 of estimated population.

NOTE.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of illness, and dying there; and by the term "Residents" is meant persons who have been taken out of the district on account of illness, and have died elsewhere.

Area of District in acres (exclusive of area covered by water.) ....3·231

At Census of 1891.
Total population at all ages..............36,000
Number of inhabited houses 8,292
Average number of persons per house......5

TABLE II.

Name of District Macclesfield.

Names of Localities.	West Macclesfield.				Eest Macclesfield includes Hurdsfield from 1896.				Hurdsfield.				Sutton.			
Year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all ages:	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all ages.	Deaths under 1 year.
	a.	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*
1890 ...	17963	462	308	78	10656	274	219	60	3530	100	83	1	5356	177	112	22
1891 ...	17854	447	398	61	9813	293	204	49	3282	111	44	3	5060	158	103	17
1892 ...	17854	437	472	84	9813	298	213	64	3282	110	74	19	5060	144	146	34
1893 ...	17854	427	415	74	9813	257	185	68	3282	111	57	17	5060	136	87	18
1894 ...	17854	471	332	49	9813	284	160	49	3282	90	53	15	5060	166	98	20
1895 ...	17854	433	421	98	9813	276	213	17	3282	74	67	15	5060	154	112	29
1896 ...	17854	441	352	61	13095	375	242	67					5051	149	71	22
1897 ...	17854	472	382	61	13095	378	261	71					5051	127	91	27
1898 ...	17854	422	369	85	13095	383	225	61					5051	148	76	20
1899 ...	17854	417	422	90	13095	341	213	57					5051	128	102	23
Averages of Years 189 to 1899.	17854	442	387	75		475	251	68						146	99	23
1900 ...	17854	429	398	72	13095	305	224	74					5051	119	84	17

NOTES.—(*a*) The separate localities adopted for this table should be areas of which the populations are obtainable from the census returns, such as wards, parishes or groups of parishes, or registration sub-districts. Block 1 may, if desired, be used for the whole district: and blocks 2, 3, &c., for the several localities. In small districts without recognised divisions of known population this Table need not be filled up.

(*b*) Deaths of residents occurring beyond the district are to be included in sub-colums *c* of this table, and those of non-residents registered in the district excluded. (See note on Table I. as to meaning of terms " resident " and " non-resident.")

(*c*) Deaths of residents occurring in public institutions are to be allotted to the respective localities, according to addresses of the deceased.

TABLE III.

Cases of Infectious Diseases notified during the year 1900

Notifiable Disease.	Cases Notified in Whole District.						Total Notified in each Locality.			No. of Cases removed to hospital from each locality		
	At all Ages.	At Ages†—Years.					West Macclesfield.	East Macclesfield and Hurdsfield.	Sutton.	West Macclesfield.	East Macclesfield.	Sutton.
		Under 1.	1 to 5.	5 to 15	15 to 25.	25 to 65.						
										h	i	
Smallpox	1	...	...	...	1	...	1	...	...	...	...	...
Diphtheria	16	...	9	6	...	1	7	7	2	1	2	1
Erysipelas	26	1	...	2	2	21	18	5	3	...	...	...
Scarlet Fever	50	2	21	24	2	1	20	12	18	8	6	5
Enteric Fever	62	...	2	19	17	24	22	26	14	2	10	2
Puerperal Fever ...	1	...	...	...	1	...	1	...	...	...	...	...
Totals ...	156	3	32	51	23	47	69	50	37	11	18	8

NOTES.—The localities adopted for this table should be the same as those in Tables II and IV.

State the name of the isolation hospital, if any, used by the sick of the district. Mark (H) the locality in which it is situate, or if not within the district, state where it is situated, and in what district.

*This space may be used for record of other disease the notification (compulsory or voluntary) of which is in force in the district.

†These age columns for notification should be filled up in all cases where the Medical Officer of Health, by inquiry or otherwise, has obtained the necessary information.

TABLE IV. Macclesfield District.

Causes of, and Ages at, Death during Year 1900.

Causes of Death.	*Death in whole District at subjoined ages.* All ages	Under 1	1 & under 5	5 & un. 15	15 & un. 25	25 & un. 65	65 & up.	*Deaths in Localities (at all ages.)* West	East	Sutton	*Deaths in Public Institutions*
Measles	11	3	7	1	...	...	...	7	3	1	...
Scarlet Fever	1	...	1	...	...	...	...	1	..	...	...
Whooping-cough ...	5	3	2	...	...	...	...	2	3	...	...
Diphtheria and membranous croup. ...	5	...	4	1	...	...	...	3	2	...	...
Enteric Fever	9	...	...	1	3	5	...	3	3	1	2
Epidemic influenza ...	17	...	...	1	4	5	7	8	3	2	4
Diarrhoea	36	26	4	...	...	1	5	18	12	6	...
Puerperal Fever ...	1	...	...	...	1	...	...	1	...	...	...
Erysipelas	1	...	...	...	...	...	1		...	...	1
Other septic diseases ...	3	...	...	1	...	2	...	2	1	...	...
Phthisis	57	...	1	2	10	42	2	13	19	5	21
Other tubercular diseases	48	27	11	3	3	2	2	22	20	2	4
Cancer, malignant disease	34	1	..	...	1	22	10	14	10	5	5
Bronchitis	70	19	6	...	3	22	19	31	19	13	11
Pneumonia	40	11	5	...	5	14	5	11	7	5	17
Other diseases of Respiratory organs ...	2	...	...	...	...	2	...	2	...	...	...
Alcoholism } Cirrhosis of liver } ...	7	...	...	...	...	6	1	5	1	1	...
Venereal diseases ...	12	9	1	...	...	1	1	8	3	1	...
Premature birth ...	24	24	...	...	...	...	...	12	9	3	...
Diseases and accidents of parturtion ...	3	...	...	...	1	2	...	1	...	2	...
Heart diseases	84	...	2	1	4	45	32	34	23	7	21
Accidents	14	...	...	4	...	9	1	12	2	...	...
Suicides	3	...	...	...	...	3	...	3	...	...	...
Convulsions	29	21	4	...	2	2	...	7	18	4	...
Brain diseases	65	2	3	2	...	32	26	19	11	5	...
Marasmus	10	7	3	...	...	...	...	2	6	2	...
Senile Atrophe... ...	86	...	...	...	...	1	85	28	30	12	...
Bright's disease ...	33	...	...	...	2	24	7	29	5	0	...
All other causes ...	37	9	0	3	0	14	14	19	9	5	...
All causes	772	163	59	15	42	270	223				